

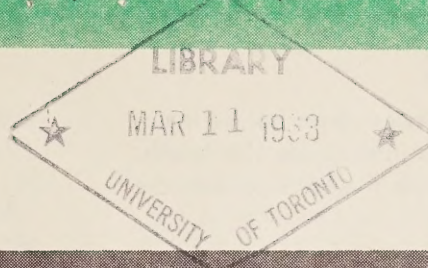
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General Series Circular (No. 37)
(English Version)

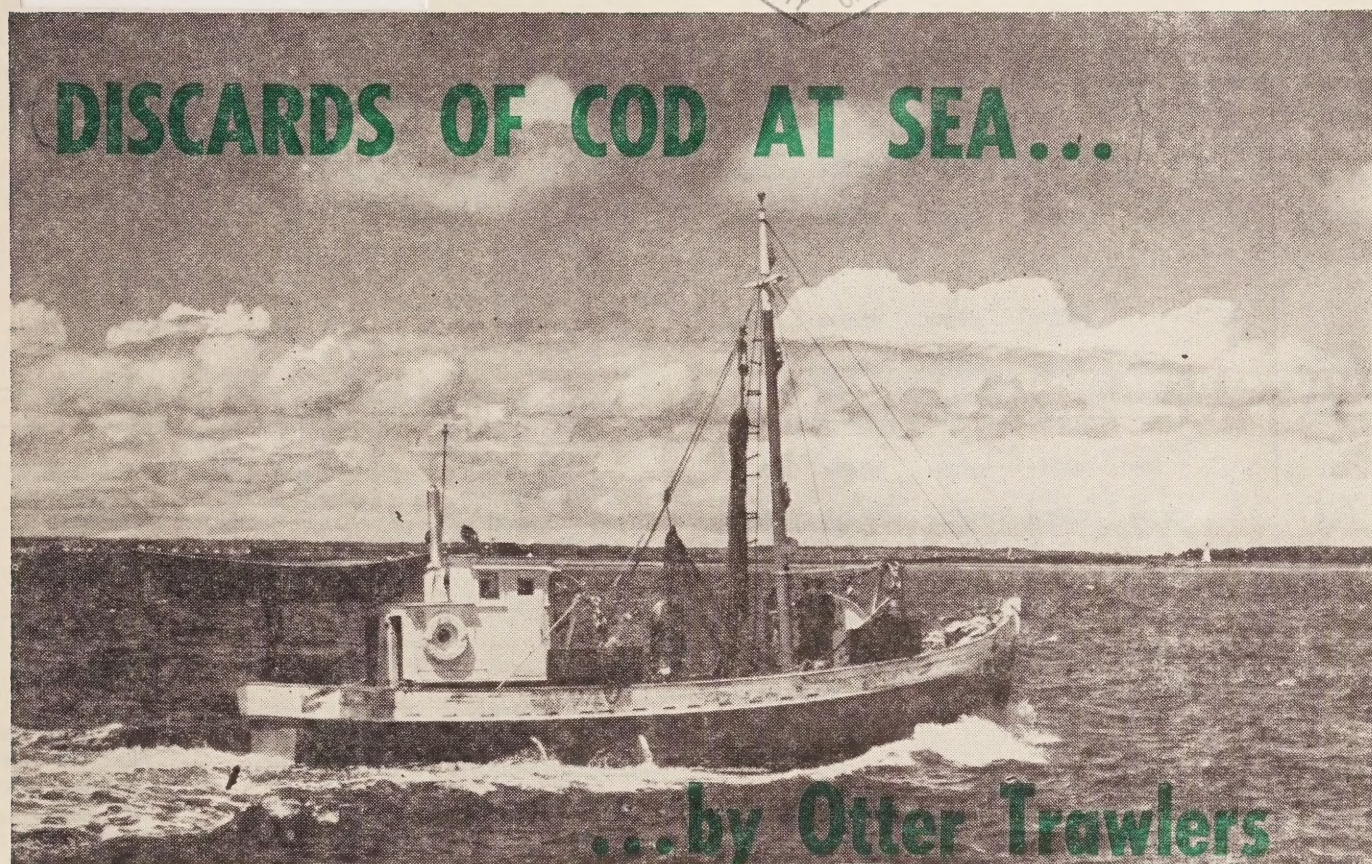
(December, 1962)



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(New Brunswick Provincial Tourist Bureau photo)

By YVES JEAN

This tells about recent changes in fishing in the southwest Gulf of St. Lawrence. At first otter trawlers wasted many small fish because they used small-mesh nets and handled only the larger fish. Rules on size of mesh in trawls and changes in the sizes of fish culled have cut out three quarters of the waste.

Before 1947 most of the groundfish taken by Canadians in the southwest Gulf of St. Lawrence were caught by lines with baited hooks or jiggers. In 1947 small otter trawlers (draggers) began working from northern New Brunswick. They started from Quebec ports in 1952. The dragger fleet grew rapidly. By 1961 more than 130 draggers from Quebec and the Maritimes were fishing cod in the southwest Gulf. In 1952 European otter trawlers started fishing in the spring

for the same stock of cod along the side of the Laurentian Channel from Banquereau to Bird Rocks. In some years European trawlers caught as much as all Canadian lines and draggers in the southwest Gulf.

Otter trawlers outfish hook and line. They catch more cod and many more fish like flounders that have small mouths. However, an otter trawl with small mesh is quite destructive. It catches many fish that are too small to market. These are thrown overboard and most of them are dead and lost to the fishery.

Canada put in a regulation in 1957 to cut down on the amount of fish killed but not used (discards). The meshes in otter trawls are not allowed to be less than 4½ inches (manila equivalent). Mesh sizes were for-

merly about 3 inches. Other countries who are members of the International Commission for the Northwest Atlantic Fisheries (ICNAF) agreed to use the larger meshes also.

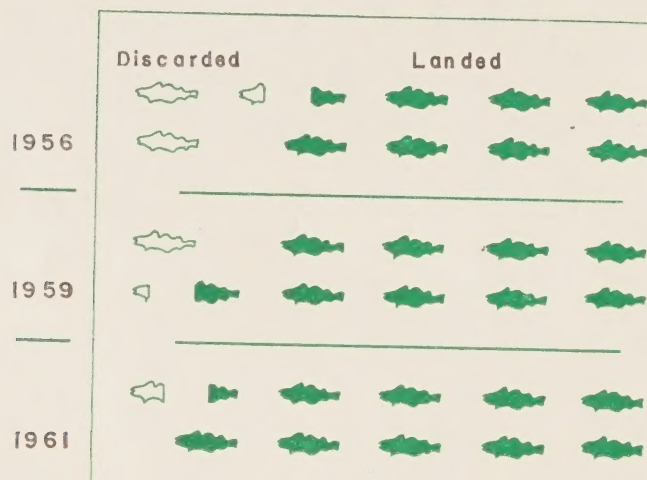


Fig. 1. Numbers of cod discarded at sea (white) and landed (green) per 100 fish caught, 1956-1961. (1 fish in the figure = 10 fish caught.)

The Fisheries Research Board studied how much the waste of small fish is cut down by using large mesh. To do this it put observers on draggers fishing mostly from northern New Brunswick. From 1956 to 1961 they made 44 sampling trips. This circular tells what they found.

DRAGGERS WASTE LESS COD

Northern New Brunswick draggers have been wasting less cod in recent years as shown in Figure 1. In 1956, 25 out of every 100 cod caught were thrown overboard. In 1961 only 6 out of 100 cod caught were thrown away.

WHY LESS FISH WASTE?

Larger mesh size. The number of fish wasted depends partly on the mesh size. A large-mesh net does not catch as many small fish as a small-mesh net so that fewer fish are thrown overboard. This was shown in 1958 when fishermen were changing to larger meshes. One half the fleet used small-mesh nets and the other half large-mesh nets. The numbers of cod thrown away out of each 100 fish caught by the two kinds of nets

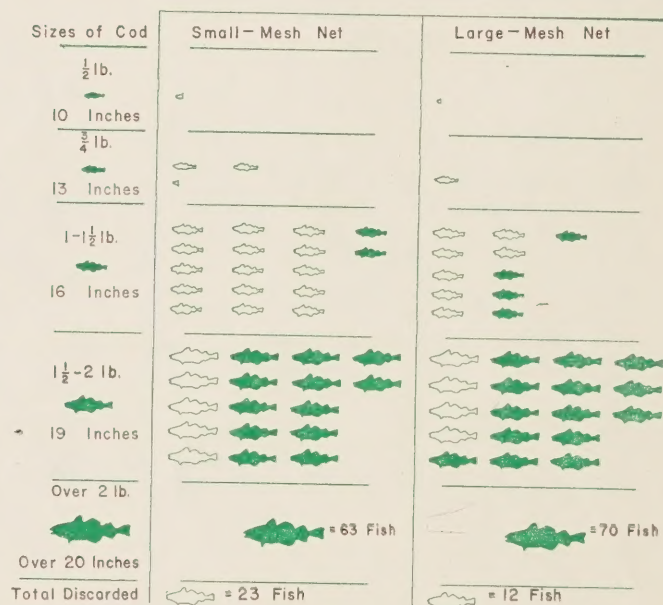


Fig. 2. Numbers of cod discarded (white) and landed (green) per 100 fish caught with small- and large-mesh nets in 1958. (1 fish in the figure = 1 fish caught.)

are shown according to fish sizes in Figure 2. Draggars using small mesh discarded 23% of the number of fish caught, but those using large mesh discarded only 12%, or about half as many. The saving was best for small cod below $1\frac{1}{2}$ lb in weight.

Smaller cod landed. Figure 1 shows that discards were cut down to one quarter between the years 1956 to 1961. Something must have helped mesh size in cutting down the waste. The something is a change in landing practice. Figure 3 shows the difference between 1957 and 1961 in the size of cod landed by fishermen using large-mesh nets. The total number of small fish was bigger in 1961 than in 1957. The reason for landing smaller fish is also shown in Figure 3. Large cod (over $5\frac{1}{2}$ lb) were less common because they have been nearly fished out by large fleet of otter trawlers.

As a result, average cod landings of a Gloucester-type dragger dropped from 26,000 lb per week in 1957 to 16,000 lb in 1961. With large fish scarce, fishermen and fish buyers marketed small fish in 1961 which used to be thrown away when large fish could be caught.

Landing smaller cod and using larger mesh were about equally responsible for cutting down waste of cod at sea.

SIX MILLION SMALL COD SAVED ANNUALLY

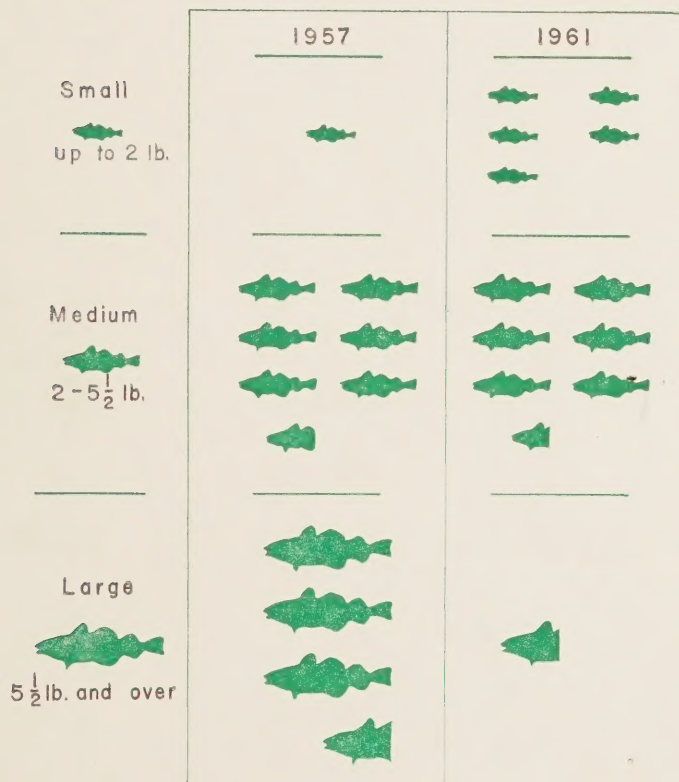
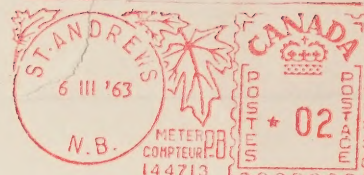


Fig. 3. Total number of cod, by size categories, landed by northern New Brunswick draggers using large-mesh nets in 1957 and 1961. (1 fish in the figure = $\frac{1}{2}$ million cod landed.)

The northern New Brunswick dragger fleet usually caught about 6 million codfish each year from 1956 to 1961. In 1956 about 2 million were discarded. In 1961 the total number of cod thrown away was estimated at about $\frac{1}{2}$ million fish. This means that there was a saving of about $1\frac{1}{2}$ million fish by the northern New Brunswick fleet alone.

Discards by all other otter trawlers fishing in the southwest Gulf and along the Cape Breton coast were about 7 million fish in 1956. In 1961 the total discards amounted to only 1 million fish. The bigger mesh and the smaller size of cod landed have cut down on the waste of small cod in the southwest Gulf by about 6 million fish a year. Some of the small fish that have escaped through the large mesh will be caught again after they grow bigger. In this way, over the years, better use will be made of the cod stocks.

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